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November 24, 2002

**Office of the Secretary**  
**Federal Department of Energy**  
**Washington, DC 20024**

### **REQUEST FOR ENERGY GRANT**

This Proposal pertains to an important new energy source. It emerges from recognition that the time-honored concept "*mass defect*", holding that the enormous nuclear binding energy is *lost* or completely *dissipated* is entirely incorrect. This flawed concept is attributable *directly* to Einstein's equating energy to mass in his famous  $E=mc^2$ .

The Einstein defect is demonstrated in very precise detail in Figs. 1, 2A and 2B of my enclosed U. S. Patent Application No. 10/066,847 filed February 4, 2002 with the title "ENERGY FINDING TECHNIQUE AND TYPICAL USEFUL DEVICE". Aspects are also explained in detail in my enclosed pamphlet "CORRECT MATHEMATICS AND PHYSICS For the 21<sup>st</sup> Century"(1),(2),(3).

As explained on pages 7 and 7a of the enclosed pamphlet and the mathematics leading thereto, the true state of both kinetic and binding energy is represented *exactly* by the inverse square  $2^{\pm n}$  relationship. Proper understanding of Planck's constant reveals that kinetic energy is directly measurable because it implies change of state while binding energy, which manifests no such change, is not directly measurable. This accounts for the deceptive term *mass defect*.

(1) See p. 9 of the pamphlet which notes Einstein's own acknowledgment of the defect in his work.

(2) See p. 10-13 demonstrating the defect in the use of Lorenz geometry.

(3) See p. 14-15 which explains Einstein's error in concluding that the speed of light is asymptotic.

Grant is requested for a Project entitled

## **EARTHQUAKE PILOT ENERGY PLANT**

The details of the Proposal are as follows:

A) The expected locus of the plant will be selected in the 12,000 square kilometers near Palmdale CA, 70 kilometers north of Los Angeles<sup>(4)</sup>.

B) The goal will be to choose a point with an existing energy anomaly in the order of 500<sup>0</sup> C at a reasonable depth.

C) Various energy-exchange techniques will be studied with the goal of most efficient extraction of the anomalous binding energy.

D) Existing desalination techniques will be studied with the goal of choosing the most appropriate procedure for using the extracted energy to convert salt water to fresh water.

E) The  $2^{\pm n}$  relationship will be studied as applied to random data currently available, with the goal of developing an over-all systematic inter-relationship of known fault mechanics and their values.

F) Funds should be appropriated for employing local experts.

G) A modest personal operating fund can be developed in detail.

To provide a quick understanding of the background in which this Proposal is made, the following are enclosed:

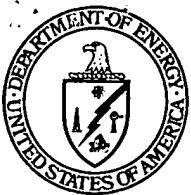
- 1) Letter of November 9th to Dr. Bolt.
- 2) Letter of November 1<sup>st</sup> to the Committee of the up-coming SIAM GS03 Geophysical Meeting.
- 3) Page 63 of EARTH SHOCK<sup>(5)</sup> showing the Palmdale fault region.

Sincerely,

**Ralph Bucknam**

(4) See p. 115 EARTHQUAKE (4th Ed.) Bruce A. Bolt, W. H. Freeman & Co. (1999)

(4) EARTH SHOCK, Andrew Robinson, Thames & Hudson, Ltd, London (2002)



## Department of Energy

Washington, DC 20585

January 2, 2003

Mr. Ralph Bucknam  
Terra-Mar Drive (off Crescent Beach Dr.)  
Huntington, NY 11743

Dear Mr. Bucknam:

This is response to your November 24, 2002, letter to the Secretary of the U.S. Department of Energy concerning your request for a grant to develop a pilot system for extracting earthquake binding energy.

Prior to requesting a grant for an experiment, the usual method for review is to write a paper and submit it to a peer-reviewed scientific journal. Acceptance of new theoretical ideas depends upon their ability to quantitatively explain past experimental results and to accurately predict new, testable ones. The present Standard Model, including Einstein's equation, has had great success in this regard, so it will not be easy for a new theory to displace it.

With regard to a grant, you may wish to consider applying for the Small Business Innovative Research (SBIR) grant (<http://www.science.doe.gov/>, then click on "SBIR").

Sincerely,

*Dave Goodwin*  
Dave Goodwin  
Program Manager  
Office of High Energy and Nuclear Physics



Printed with soy ink on recycled paper

**RALPH BUCKNAM  
No. 3 Terra-Mar Drive  
Huntington, NY 11743**

**e-mail: Bucknam@aol.com  
(631) 427-9322  
January 9, 2003**

**Mr. Dave Goodwin, Program Manager  
Department of Energy  
Washington, DC 20585**

**Dear Mr. Goodwin:**

**Considering our Nation and the rest of civilization's desperate need for finding new sources of energy, it is unbelievable that, as the Program Manger of our Federal Energy Department, you would act and write so *irresponsibly* as you have done in your letter of January 2<sup>nd</sup>.**

**Who else, with such a very deep background in mathematics and physics has proposed to the Energy Department, in exact mathematical terms, that there is a safe way to retrieve and use the enormous nuclear binding energy associated with the Earth's anomalies?**

**What excuse can you give for delaying from November 24<sup>th</sup> to January 2<sup>nd</sup> before even writing your brief note in spite of the very, very great importance of the subject under consideration?**

**Why have you simply ignored my sequence of Express Mail letters including those dealing with the very great urgency and importance of establishing world-wide patent rights for our nation for this vitally important project before the February 3<sup>rd</sup> deadline?**

**Do you have *any* appreciation of the desperate woes and disappointment those working with the Standard Model are facing with no real hope of turning up new energy sources?**

**Are you aware of how Einstein's badly distorted work is being proved in many ways to be a great disaster to science? Page 1 of the enclosed pamphlet pinpoints the dishonesty of the "Peer System".**

**Sinc rely,**

**Ralph Bucknam**

**CC: Senator John F. K rry**

**RALPH BUCKNAM  
No. 3 Terra-mar Drive  
Huntington, NY 117433**

(631)427-9322

Jan. 24, 2003

**David Goodwin, Program Manager  
Office of High Energy and Nuclear Physics  
UNITED STATES DEPARTMENT OF ENERGY  
1000 Independence Avenue, SW  
Washington, DC 20585**

**Dear Mr. Goodwin:**

**For the record (and posterity) I am quoting your January 2<sup>nd</sup> letter showing how you brush off the very extensive and comprehensive effort of a citizen (who has used a sound new approach to mathematics and physics) to help our Nation and the rest of the world solve the vitally urgent energy crisis:**

Mr. Ralph Bucknam  
Terra-Mar Drive (off Crescent Beach Dr.)  
Huntington, NY 11743

Dear Mr. Bucknam:

This is response to your November 24, 2002, letter to the Secretary of the U.S. Department of Energy concerning your request for a grant to develop a pilot system for extracting earthquake binding energy.

Prior to requesting a grant for an experiment, the usual method for review is to write a paper and submit it to a peer-reviewed scientific journal. Acceptance of new theoretical ideas depends upon their ability to quantitatively explain past experimental results and to accurately predict new, testable ones. The present Standard Model, including Einstein's equation, has had great success in this regard, so it will not be easy for a new theory to displace it.

With regard to a grant, you may wish to consider applying for the Small Business Innovative Research (SBIR) grant (<http://www.science.doe.gov/>), then click on "SBIR".

Sincerely,

**1) "... Einstein's equation ... has had great success ... so it will not be easy for a new theory to displace it."**

Please read pages 18 through 22 of the enclosed pamphlet entitled **UNDERSTANDING KOLMOGOROV'S 4/5 ENERGY DISSIPATION LAW**. (A second copy is enclosed. You may wish to pass it to Sec. Abrahams so he can see how the Energy Department is performing.)

**2) "The present Standard Model ... has had great success ..."**

a) Great investment is being made at Brookhaven and elsewhere to solve the Muon g-2 error problem. The enclosed (unanswered) letter to the Project Manager dated September 4, 2001 shows the solution. It is understandable that those researchers would not want to ask the Energy Department to cancel their grant because the solution has been found!

b) The Standard Model concept is costing huge expenditures. It has not had "great success" as yet. As noted, for example, in "The Particle Century", Gordon Fraser, Bookcraft,Ltd. UK (1998) page 190, the big hope is "the possibility that we may understand why things have mass through the Higgs mechanism." It is recognized that this may cost a *billion* dollars with no real promise of solving the energy problem.

Sincerely,

**CC: Sen. John F. Kerry  
Dennis Overbye, NYT**



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November 1, 2002

**Individual Committee Members  
SIAM GS03 Geoscience Meeting**

**Dear Committee Member:**

As each of you well know, reasonably assuming that the SIAM May invitation to submit a Minisymposium Proposal for the meeting next March in Austin, TX, was being made in *good faith*, I exerted *very great effort* to prepare a Proposal entitled "Possible Utilization of Binding Energy". Because of the complexity of the problem I sent you each very complete analytical material by Priority Mail. It is unbelievable that by e-mail 10/23/02 in a display of outrageous *bad faith*, your co-chairmen Alain Bourgeat of the University of Lyons and Clint Dawson of the University of Texas sent me the ugly, dishonest rejection simply reading "This decision was based on the *lack of overlap* of the paper topic and the themes of the conference.

The world wide importance of this energy project can be fully understood from the enclosed letter of October 17<sup>th</sup> to Secretary Colin Powell. Succinctly stated, the plan is:

"...to develop a pilot system for *safely* extracting earthquake binding energy at carefully chosen sites and using it for converting salt water to fresh water."

I went to great effort and expense to pin down for you the *universal* traditional misconception that nuclear binding energy is completely *lost* or *dissipated*. The McGraw Hill (2nd Ed.) Dictionary of Physics (1997), for example, states this:

"binding energy: 1) *The net energy required to remove a particle from a system.* 2) *The net energy required to decompose a system into its constituent particles.*"

thus indicating incorrectly that this energy must be added.

This misconception is traceable directly to Einstein's erroneous  $E=mc^2$ . Historically, one needs to go back only to page 102 of FRONTIERS IN PHYSICS, Nuclear Theory, A. M. Lane, (W.A.B. Benjamin - Pub.) 1964 to find the bold misstatement: "Atomic nuclei are very stable systems. Therefore, during their formation, a large quantity of energy should be released."

Very recent literature:

**CHEMISTRY**, Raymond Chang (7<sup>th</sup>Ed,) McGraw Hill (2002) p. 914

*"The difference between the mass of an atom and the sum of the masses of its protons, neutrons and electrons is called the mass defect. Relativity theory tells us that the loss in mass shows up as energy (heat) given off to the surroundings."*

**CHEMISTRY, Matter and Its Change**, Brady-Russell-Holum.

John Wiley (2002) p 995

"We can calculate nuclear binding energy using the Einstein equation." Helium 4 has the mass defect of 0.03077 mass units. This lost energy could keep a 100 watt light bulb lit for nearly 900 years.

As has been explained in the little pamphlet I sent each of you entitled CORRECT MATHEMATICS AND PHYSICS For the 21<sup>st</sup> Century, it is the same long standing dishonesty and bad faith now demonstrated by SIAM which has resulted in withholding from the entire Scientific Community the true mathematics and physics of *dynamics of motion* as now shown clearly and simply in the attached drawing. Pages 6 and 7 of the pamphlet have been attached for convenience. With this correct understanding of *binding energy*, there is clearly no question of being "lost". As indicated at page 127 of NON-ACCELERATED PARTICLE PHYSICS, H. V. Klapdor-Kleingrothaus and A. Staudt, Institute of Physics Publishing, (1995) the presence of binding energy is recognized and the existence of nuclear decay is explained. Normally, such decay will extend over many million years. It is believed that only where there is some nuclear energy anomaly such as an earthquake condition, hot springs or a volcano can binding energy be extracted in a proper situation as useful energy.

When I read in Dr. Dawson's letter of August 2<sup>nd</sup> the statement "Though our group deals with "energy", the kind of energy we are talking about is what is derived from petroleum resources. It is not related to the kind of energy you are interested in." Nowhere in the "themes" as recited in the Invitation from SIAM does one find this limitation. I should have recognized you were telling me there is simply some little "group" which is using the meeting for its own purposes.

Clearly, the Binding Energy Proposal fits *exactly* the specific words defining these themes used in the Invitation -- earthquake prediction, earthquake modeling, large-scale computational algorithms, geophysics in general, multiphase flows, reactive flows, etc.

This exact compliance leaves no room what-so-ever for your Committee's contention that there is a "lack of overlap of the paper topic and the themes of the conference." This is plain cheating. If it were I alone who is affected, I would not write this letter.

The problem is far, far more serious. The entire world is searching desperately for more useful energy. The general public must place its faith in the honesty of people in your position. Few of them are able to understand the highly complex energy mathematics and physics. It is this trusting public your Committee is cheating. You should all be thoroughly ashamed of yourselves!

Sincerely,

Ralph Bucknam

CC: Commissioner of Patents  
Dr. Judy Franz, Exec. Off., APS



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT OFFICE

RALPH E. BUCKNAM

SERIAL NO.: 10/066,847

EXAMINER: NIKITA WELLS

FILED: FEBRUARY 4, 2002

GROUP: 2881

TITLE: ENERGY FINDING TECHNIQUE AND TYPICAL USEFUL DEVICE

CASE: BA-22810

BOX NON-FEE AMENDMENT

Asst. Commissioner for Patents  
Washington, D.C. 20231

REPLY TO THE FIRST OFFICE ACTION

MAR 13 2003  
PC 2880 MAIL ROOM

RECEIVED

The utterly superficial and obviously insincere Official Action dated January 13, 2003 lays open the very fundamental question of the meaning of the words "...The senators and representatives before mentioned, and the members of the several State legislatures, and all executive and judicial officers, both of the United States, and of the several States, shall be bound by oath or affirmation to support this Constitution; ..." as provided in Article VI, Section 1, Sub-section 3 of the Federal Constitution.

The title of the present application reads:

"Energy Finding Technique  
and Typical Useful Device."

The specification goes into clear, full detail (which the Examiner has completely ignored) in explaining the fatal flaw in Einstein's  $E=mc^2$  - see Figs. 1, 2A and 2B. It explains the organized pattern of nuclear binding energy as noted in Figs. 9, 12 and 13 and discusses how this pattern can be used. It corrects the traditional Schrodinger quantum mechanics by showing the proper relationship in Fig. 11. Referring to Fig. 3 of cited COLLEGE PHYSICS it will be seen that Figs. 14 A and B of the application show a parallel set up for lodestone.

On must ask how, in good faith, with this profound and meaningful disclosure can any Examiner ask such misguided questions as:

What is the basic mechanics?  
How is the inherent energy trapped in the lodestone?

Most telling is the Examiner's effort to confus by her question:

What are the basic paramet rs of force, time and distance?

Had she but had the integrity to study Fig. 8 of the application, she would have come to realize that, in place of present dynamic distortions, an entirely correct system of dynamics, based on Newton's three laws of motion has emerged. The inescapable conclusion is that the so-called "Action" is a very *empty* piece of work passed off as a genuine First Official Action.

This complete bad faith of the Examiner is trivial compared to the *complete failure* of the Patent office, in spite of the Oath, to abide by the manifest duty imposed on it by Article I, Section 8, Sub-section 8 of the Constitution "To promote the progress of science and the useful arts." Attached is a little pamphlet entitled "UNDERSTANDING KOLMOGOROV'S 4/5 ENERGY DISSIPATION LAW". Immediately following page 23 thereof will be found a further little pamphlet entitled "CORRECT MATHEMATICS AND PHYSICS For the 21<sup>st</sup> Century". Sub-sec. 2) of the very first page after the yellow cover states exactly how the Patent Office has chosen to ignore completely the mandate imposed by our splendid Constitution and substitute its own entirely different mandate.

While this very great disregard for the language of the Constitution is atrocious treatment of the trusting American public, it again falls far short of the complete capriciousness of both the Patent Office and the Federal Energy Department in failing to recognize and respond immediately to the challenge of meeting the desperate, world-wide need to find new sources of energy by properly making special and pressing ahead with energy concepts falling under Rule 1.102(c).

In spite of the (unanswered) Express Mail letters I sent the Patent Office on March 11, May 4, May 30, and July 9 requesting in various ways that I be invited to explain to someone in the Patent Office the urgency of the new energy Rule 1.103(c) problem in the present application, with the goal of introducing the concept to the Energy Department, this effort was completely unsuccessful.

When the Examiner raised questions about "basic parameters", "how is the potential energy trapped", "the energy must come from the work done", etc. she obviously had no idea of the complexity underlying physical concepts she would have to grasp for any reasonable understanding. A good starting point is the enclosed "Kolgomorov" pamphlet:

Before going into detail, let me begin with the following very broad statement:

AT PRESENT, SCIENTIST HAVE BEEN LED  
COMPLETELY AWAY FROM ANY EXPECTATION OF  
RETRIEVING USABLE NUCLEAR BINDING ENERGY BY  
EINSTEIN'S MISGUIDED ENERGY LOSS CONCEPT KNOWN  
AS THE "MASS DEFECT".

From very extensive reading, I was at the time of filing the patent application aware that nuclear binding energy is probably exposed to a variety of *anomalies* of the type falling within the scope of claim 1, that of lodestone being a simple, familiar one. My thinking at that stage was in terms of such physical phenomena as swelling, porosity and elasticity.

Purely as a coincidence, just after filing the patent application I received an invitation from SIAM to submit a proposal for a four-person Mini-Symposium to extend from March 17-20, 2003 in the field of Mathematics and Computational Issues in the Geosciences. (In response to a similar invitation in January 2000 I had attempted to set up such Symposium with 1 ading professors at Yale, but the time was too short.)

To be very brief, I made a *very* great effort, trying to use the people at Yale, to set up a March 2003 Symposium entitled "Possible Utilization of Binding Energy". Entirely consistent with 1) of the page following the yellow sheet in "Kolmogorov", the attached letter of November 1, 2002 to the SIAM committee tells the story about Einstein's "mass defect". For your convenience I have attached p. 914 of Chang, p. 995 of Brady-Russell-Holcum and p. 127 of "Particle Physics" cited therein.

Initially, following the guide-lines given in the patent application, I began searching for substances of the nature of lodestone which might lead to useful nuclear binding energy retrieval. I soon began recognizing that, evidently due to Einstein's ill-advised misconception concerning the "mass defect", researchers had obviously failed to consider nuclear binding energy as a valid prospect. I learned that Springer was in the process of publishing a treatise by Salvatore Torquato, head of the Princeton materials Institute entitled "RANDOM HETEROGENEOUS MATERIALS, Microstructure and Macroscopic Properties". When the book arrived, I realized there was no analysis of the nuclear binding properties of the many, many materials considered. I do have other famous textbooks on "ADVANCED MECHANICS OF MATERIALS", Hugh Ford (1962) and Boresi, Sidebottom, Seely and Smith (1978) which confirm this conclusion.

At about that time, I began to realize that the real place to look for safe, utilizable binding energy is among the enormous yields available in Earth anomalies such as hot springs, earthquake areas and volcanic regions. Also, this fit *exactly* into the SIAM conference proposal. In addition, I began to recognize that my process claims do describe exactly the steps required to retrieve and utilize such nuclear binding energy: 1) locate the proper place for a pilot plant, 2) introduce an appropriate energy exchange medium for extracting energy, 3) applying the extracted energy to convert salt water to fresh water, and damming the water (as a battery).

It is the great international crisis (truly about oil) that prompted me on November 24, 2002 to send the enclosed "REQUEST FOR ENERGY GRANT" to the Federal Energy Department. The enclosed letter of January 2, 2003, (a prime example of 3) of the page following the yellow "CORRECT ENERGY" cover of the enclosure) shows the way the Energy Department brushes off outsiders regardless of the importance of the submission. My enclosed letters of January 9 and 24, 2003 enumerate the (again unanswered) Express Mail letters I had also sent to the Energy Department in the hope of receiving some *constructive* reply and correct the assertions made in his "brush-off".

The question can now be appropriately addressed regarding the **UTILITY** of this nuclear energy retrieving and utilization process and system:

Certainly, if 35 USC 101 means that, in order to receive a patent, I must first travel to Palmdale, CA, explore the 12,000 square kilometer of promising energy retrieval land, acquire drilling rights, set up my own drilling system and show that I can safely extract the desired energy, and show how to use it to convert salt water to fresh water *only then* will I have demonstrated the required "Utility", the position of the Examiner is correct - but this seems to hark back to the ancient days when an applicant was required to produce a model!

If, on the other hand, my "promotion of science" is to have shown how very incorrect is the Einstein "mass defect" concept, how the vast data base of random values collected by thousands upon thousands of researchers lacking knowledge of the correct dynamics system shown in pages 7 and 7a of "CORRECT MATHEMATICS" and how it can be fit into a correct analogue  $2^n$  system and how, with proper knowledge this new approach can be used safely, surely this very great progress of science will be found deserving of patent protection.

Respectfully submitted,

RALPH E. BUCKNAM



Ralph E. Bucknam, Reg. No.: 14,814

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